Summary Report for Algebra I

Carnegie Learning, Inc.
Algebra I: Common Core Math Course Indiana Edition, Algebra I

Degree of Evidence regarding the Standards for Mathematical Practice:

Minimal Evidence

Summary of evidence:

1. **Make sense of problems and persevere in solving them**. Students are asked to make different representations (tables, graphs, and equations), but the connection between representations is up to the students and teachers to make – the resource does not draw attention to the relationship (e.g. p. 23). Assignments in the assignment book are very similar to the problems from class, and they are very scripted (e.g. Assignment book p. 1 – chapter 1 – Tanks a lot). There are few to no open-ended questions. There are few to no opportunities for students to consider reasonableness. Multiple approaches are not present in the chapters reviewed. There are no real opportunities for students to reflect on their answers. There is very limited opportunity for students to create a problem-solving plan and follow through or determine reasonableness.
2. **Reason abstractly and quantitatively**. Many of the questions in the text involve real-world applications (e.g. p. 467). Students are asked to model real-world situations using symbols often. Algorithms or information is given to students, and then there are opportunities for practice (e.g. p. 24). There are not many opportunities to apply mathematical ideas; typically students are answering narrow, guided questions. Rarely are students asked to consider the reasonableness of their results. Though there are many application problems, students are rarely required to think abstractly.
3. **Construct viable arguments and critique the reasoning of others**. There are symbols in the teacher resource and student text to help prompt student-to-student and student-to-class conversations. There are notes to teachers to have students explain their work to the class (e.g. p. 494). There are occasional opportunities to explain in questions (e.g. p. 31). The end of each section calls for students to share solutions and their methods with the class. There is little to no opportunity for students to make and test conjectures. There are few, if any, opportunities to justify in the student text. In the chapters reviewed, there are no error analysis problems or opportunities for students to correct incorrect reasoning given in the text. There are some opportunities for students to communicate their understanding, but they are limited in the student text. The student text calls for limited justification or reasoning.
4. **Model with mathematics**. In the chapters reviewed, often students are asked to create mathematical models for real-world situations. Rarely are students asked to revise their models. Students are asked to make sense of their answer in context of the situation (e.g. p. 7). Rarely are models used for difficult mathematical concepts. There are several application problems, but rarely are students asked to revise their model or think about reasonableness.
5. **Use appropriate tools strategically.** In the chapters reviewed, tools are rarely if ever used. Graphing calculators are mentioned very briefly. There are no references to algebra software or other technology in the chapters reviewed. Tools and technology is rarely, if ever, mentioned in the chapters reviewed, and there is no discussion or questions surrounding advantages or shortcomings of tools or technology.
6. **Attend to precision.** Because of the structure of this resource, there are very few examples worked in the student materials. Teachers will need to model precision, and there are answers modeled precisely in the teacher resource. In the chapters reviewed, examples of precise

communication, for example a sample student conversation in the teacher's edition, are not present. The opportunities for communication are mainly referenced in the teacher resource, and there is no specific reference to precision.

7. **Look for and make use of structure**. In the chapters reviewed, prior learning is rarely referenced. Rarely do students observe patterns to make generalizations about important mathematical concepts (e.g. transformations – rules are given to students p. 37; one example of generalizing p. 394). The resource does not move from specific examples to generalizations. In the chapters reviewed, structure is in the problems in the text but not necessarily in the mathematics. Often the resource gives generalizations and then asks questions of the students to apply ideas to specific problems instead of the other way around.
8. **Look for and express regularity in repeated reasoning.** In the chapters reviewed, students are rarely asked to notice patterns in order to make generalizations. Rarely, if ever, do students notice repetitiveness to discover shortcuts. There are few to no opportunities for students to decide reasonableness. There are few to no opportunities for students to generalize a pattern to determine a rule.